1   1.   (AMENDED) A method of detecting a sequence of information symbols from a first

2   signal subjected to inter-symbol interference, wherein each symbol of the sequence of information

3   symbols can adopt one of a [number] plurality of different values, said method being performed as [one

4   or more] at least one signal processing [paths] path, [and wherein the following steps are performed

5   repetitively] the method comprising:

6   setting, in each of said [one or more] at least one signal processing [paths] path, a

7   symbol in the sequence of information symbols to a value based on an intermediate signal derived from

8   said first signal and a feedback signal generated on the basis of one or more previously set symbols[,];

9   dividing a signal processing path, in which said intermediate signal for a given symbol

10   exceeds a given threshold, into two separate signal processing paths, setting said given symbol to

11   different values in each of said two separate signal processing paths[, and];

12   selecting, after setting [a number] at least one [of symbols] symbol, the sequence of

13   information symbols from one of said [one or more] at least one signal processing [paths] path as [the]

14   a detected sequence of information symbols[,]; and

15   [characterized in that

16   said method further comprises the step of] adjusting said given threshold in accordance

17   with an estimate of noise in said intermediate signal.

1   2.   (AMENDED) A method according to claim 1, [characterized in that] wherein said

2   noise is estimated by use of a known sequence of symbols in said first signal.

1   3.   (AMENDED) A method according to claim 2, [characterized in that,] wherein, when

2   said first signal includes a number of blocks of information symbols including [a] the known sequence

3   of symbols, said estimate of said noise is performed continuously.

1   4.   (AMENDED) A method according to claim 2 or 3, [characterized in that] wherein said

2   noise is estimated as [the] a mean error distance between [a] said known sequence of symbols and

3   [the] corresponding symbols of said intermediate signal multiplied by a given factor.

1   5.   (AMENDED) A method according to [one or more of claims 1-4, characterized in

2   that] any one of claims 1-3, wherein a given signal processing path is [cancelled] canceled when [the]

3   a first metric thereof is larger than [the] a metric of [another] a second given signal processing path and

4   a given number of corresponding previously set symbols in said given and said [another] second given

5   signal processing path are equal.

1   6.   (AMENDED) A method according to [one or more of claims 1-4, characterized in

2   that] any one of claims 1-3, wherein a given signal processing path is [cancelled] canceled when [the]

3   a first metric of the given signal processing path exceeds [the] a metric of at least one of all other signal

4   processing paths by a given predefined amount.

1   7.   (AMENDED) A mobile station adapted to detect a sequence of information symbols

2   from a first signal subjected to inter-symbol interference, wherein each symbol of said sequence of

3   information symbols can adopt one of a [number] plurality of different values, said mobile station [being]

4   adapted to [said detection as one or more] detect at least one signal processing [paths] path, [and] said

5   mobile station comprising [including]:

6   setting means adapted to [setting] set, in each of said [one or more] at least one signal

7   processing [paths] path, each symbol in the sequence to a value based on an intermediate signal derived

8   from said first signal and a feedback signal generated on the basis of one or more previously set

9   symbols[,];

10   dividing means adapted to divide a signal processing path, in which said intermediate

11   signal for a given symbol exceeds a given threshold, into two separate signal processing paths, whereby

12   said given symbol is set to different values in each of said two separate signal processing paths[, and];

13   selecting means adapted to [selecting] select, after setting [a number of] at least one

14   symbol [symbols], the sequence of information symbols from one of said [one or more] at least one

15   signal processing path [paths] as [the] a detected sequence of information symbols[,]; and

16   [characterized in that

17   said mobile station further comprises] adjusting means adapted to adjust said given

18   threshold in accordance with an estimate of noise in said intermediate signal.

1   8.   (AMENDED) A mobile station according to claim 7, [characterized in that] wherein

2   said adjusting means is adapted to estimate said noise using a known sequence of symbols in said first

3   signal.

1   9.   (AMENDED) A mobile station according to claim 8, [characterized in that,] wherein

2   when said first signal includes a number of blocks of information symbols including a known sequence

3   of symbols, said adjusting means [is] being adapted to perform [said] estimation of said noise

4   continuously.

1   10.   (AMENDED) A mobile station according to claim 8 or 9, [characterized in that]

2   wherein said adjusting means is adapted to estimate said noise as [the] a mean error distance between

3   a known sequence of symbols and [the] corresponding symbols of said intermediate signal multiplied

4   by a given factor.

1   11.   (AMENDED) A mobile station according to [claims 7-10, characterized in that] any

2   one of claims 7-9, wherein said selecting means is further adapted to cancel a given signal processing

3   path, when [the] a metric thereof is larger than [the] a metric of [another] a second given signal

4   processing path, and a given number of corresponding previously set symbols in said given and said

5   [another] second given signal processing path are equal.

1   12.   (AMENDED) A mobile station according to [claims 7-10, characterized in that] any

2   one of claims 7-9, wherein said selecting means is further adapted to cancel a given signal processing

3   path when [the] a metric of the given signal processing path exceeds [the] a metric of at least one of all

4   other signal processing [path] paths by a given predefined amount.

CLAIMS AS PENDING IN THIS APPLICATION

1. (AMENDED) A method of detecting a sequence of information symbols from a first signal subjected to inter-symbol interference, wherein each symbol of the sequence of information symbols can adopt one of a plurality of different values, said method being performed as at least one signal processing path, the method comprising:

 setting, in each of said at least one signal processing path, a symbol in the sequence of information symbols to a value based on an intermediate signal derived from said first signal and a feedback signal generated on the basis of one or more previously set symbols;

 dividing a signal processing path, in which said intermediate signal for a given symbol exceeds a given threshold, into two separate signal processing paths, setting said given symbol to different values in each of said two separate signal processing paths;

 selecting, after setting at least one symbol, the sequence of information symbols from one of said at least one signal processing path as a detected sequence of information symbols; and adjusting said given threshold in accordance with an estimate of noise in said intermediate signal.

2. (AMENDED) A method according to claim 1, wherein said noise is estimated by use of a known sequence of symbols in said first signal.

3. (AMENDED) A method according to claim 2, wherein, when said first signal includes a number of blocks of information symbols including the known sequence of symbols, said estimate of said noise is performed continuously.

4. (AMENDED) A method according to claim 2 or 3, wherein said noise is estimated as a mean error distance between said known sequence of symbols and corresponding symbols of said intermediate signal multiplied by a given factor.

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5.   (AMENDED) A method according to any one of claims 1-3, wherein a given signal processing path is canceled when a first metric thereof is larger than a metric of a second given signal processing path and a given number of corresponding previously set symbols in said given and said second given signal processing path are equal.

6.   (AMENDED) A method according to any one of claims 1-3, wherein a given signal processing path is canceled when a first metric of the given signal processing path exceeds a metric of at least one of all other signal processing paths by a given predefined amount.

7.   (AMENDED) A mobile station adapted to detect a sequence of information symbols from a first signal subjected to inter-symbol interference, wherein each symbol of said sequence of information symbols can adopt one of a plurality of different values, said mobile station adapted to detect at least one signal processing path, said mobile station comprising:

setting means adapted to set, in each of said at least one signal processing path, each symbol in the sequence to a value based on an intermediate signal derived from said first signal and a feedback signal generated on the basis of one or more previously set symbols;

dividing means adapted to divide a signal processing path, in which said intermediate signal for a given symbol exceeds a given threshold, into two separate signal processing paths, whereby said given symbol is set to different values in each of said two separate signal processing paths;

selecting means adapted to select, after setting at least one symbol, the sequence of information symbols from one of said at least one signal processing path as a detected sequence of information symbols; and

adjusting means adapted to adjust said given threshold in accordance with an estimate of noise in said intermediate signal.

8.   (AMENDED) A mobile station according to claim 7, wherein said adjusting means is adapted to estimate said noise using a known sequence of symbols in said first signal.

9.   (AMENDED) A mobile station according to claim 8, wherein when said first signal includes a number of blocks of information symbols including a known sequence of symbols, said adjusting means being adapted to perform estimation of said noise continuously.

10.   (AMENDED) A mobile station according to claim 8 or 9, wherein said adjusting means is adapted to estimate said noise as a mean error distance between a known sequence of symbols and corresponding symbols of said intermediate signal multiplied by a given factor.

11.   (AMENDED) A mobile station according to any one of claims 7-9, wherein said selecting means is further adapted to cancel a given signal processing path, when a metric thereof is larger than a metric of a second given signal processing path, and a given number of corresponding previously set symbols in said given and said second given signal processing path are equal.

12.   (AMENDED) A mobile station according to any one of claims 7-9, wherein said selecting means is further adapted to cancel a given signal processing path when a metric of the given signal processing path exceeds a metric of at least one of all other signal processing paths by a given predefined amount.